

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

1.-59. (Cancelled)

60. (Currently Amended) A plasma surface processing apparatus for processing a surface of a material to be processed with a processing gas plasmatized under an electric field applied from an electric power source, said apparatus having an electrode structure having a gas passage through which said processing gas is passed along a passage direction and for generating said electric field in said gas passage, said electrode structure comprising:

an elongate metallic first electrode body extending in a longitudinal direction orthogonal to said passage direction and having an elongate outer first surface extending in said longitudinal direction;

an elongate metallic second electrode body extending in said longitudinal direction and arranged in parallel with said first electrode body in an arranging direction orthogonal to said longitudinal direction and to said passage direction,

said second electrode body having an elongate outer second surface extending in said longitudinal direction and facing said first surface in said arranging direction,

one of said first and second electrode bodies being connected with said electric power source,

the other of said first and second electrode bodies being electrically grounded, said electric field being generated between said first and second surfaces; and

an elongate dielectric first case body extending in said longitudinal direction in parallel with said first and second electrode bodies,

said first case body being formed a cross section orthogonal to said longitudinal direction into a U-shape so that said first case body has a first opening which is opened toward one side direction orthogonal to said longitudinal direction,

said first electrode body being received in said dielectric first case body so that said first surface is contacted with an inner peripheral surface of said first case body,

said second electrode body being disposed outside of said dielectric first case body in said arranging direction ~~without aiming toward said first opening,~~

said first opening facing away from said second electrode body,

a space extending in a longitudinal direction being formed between said dielectric first case body and said second electrode body,

said space allowing said processing gas to pass along said passage direction in said space,

said processing gas being plasmatized in said space,

said space being provided as said gas passage,

an end part on a side of said first opening of said first case body being protruded in said one side direction relative to said first electrode body.

61. (Currently Amended) An electrode structure according to claim 60, further comprising:

an elongate lid, made of a solid dielectric material, extending in said longitudinal direction and for closing said first opening, a lateral end part of said lid covering an end surface of said protruded end part in a location more forward in said open one side direction from said first electrode body.

62. (Previously Presented) An electrode structure according to claim 60, wherein said electrode structure further comprises:

an elongate dielectric second case body extending in said longitudinal direction and arranged in parallel with said first case body in said arranging direction,

said second case body being formed a cross section orthogonal to said longitudinal direction into a U-shape so that said second case body has a second opening which is opened toward an opposite side of said one side direction,

said gas passage being defined between said first and second case bodies,

said second electrode body being received in said second case body so that said second surface is contacted with an inner peripheral surface of said second case body,

an end part on a side of said second opening of said second case body being protruded in said opposite side of said one side direction relative to said second electrode body.

63. (Previously Presented) An electrode structure according to claim 62, wherein said first dielectric case body and said second dielectric case body are separately formed.

64. (Previously Presented) An electrode structure according to claim 63, wherein said first dielectric case body has an opposing surface abutted with said second dielectric case body, and said opposing surface is provided with a recess to serve as said gas passage.
65. (Previously Presented) An electrode structure according to claim 62, wherein said first dielectric case body and said second dielectric case body are integrally connected to one another.
66. (Previously Presented) An electrode structure according to claim 62, wherein flow passage sectional area of said gas passage varies along said gas passage direction.
67. (Previously Presented) An electrode structure according to claim 62, wherein said first dielectric case body has a plate defining said gas passage, and a thickness of said plate varies along said gas passage direction.
68. (Previously Presented) An electrode structure according to claim 62, wherein a distance between said first electrode body and said second electrode body varies along said gas passage direction.
69. (Previously Presented) An electrode structure according to claim 62, wherein said first dielectric case body is provided with a gas uniformizing passage for dispersing said processing gas uniformly in said longitudinal direction and for introducing said processing gas into said gas passage.